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IS 17 (1973): Bleached Lac [CHD 23: Lac, Lac Products and Polishes]

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Indian Standard
SPECIFICATION FOR BLEACHED LAC
(*Second Revision*)

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MAKG
NEW DELHI 110001

Gr 2

August 1973

AMENDMENT NO. 2 MARCH 1989
TO
IS : 17 - 1973 SPECIFICATION FOR BLEACHED LAC

(*Second Revision*)

(*Page* 6, *clause* **5.4**, *line* 5) — Substitute the following for the existing:

Refined	0.5 percent by mass

(CDC 9)

Reprography Unit, BIS, New Delhi, India

AMENDMENT NO. 1 DECEMBER 1977

TO

IS : 17-1973 SPECIFICATION FOR BLEACHED LAC

(*Second Revision*)

This amendment is being issued in view of the deterioration in quality of bleached lac on storage under ambient temperature.

Alteration

[*Page* 7, *clause* **7.2**(d), *lines* 1 *and* 2] — Delete the words 'or lot number to trace the lot of manufacture'.

Addenda

(*Page* 7, *clause* **7.1**) — Add the following new clause after **7.1**:

'**7.1.1** It is recommended that the material be consumed as early as possible after purchase; till the time it is consumed, the containers shall be stored at low temperatures, preferably 4 to 5 °C.'

[*Page* 7, *clause* **7.2**(d)] — Add the following new item after **7.2**(d):

'e) Lot number or code number to trace the lot of manufacture.'

(*Page 8, clause* **8.2**) — Add the following new clause after **8.2**:

'**8.2.1** Samples shall be stored in air-tight containers at temperature not more than 20°C for periods up to three months; if it is intended to keep the samples for longer periods, they shall be kept in a refrigerator.'

(CDC 9)

Printed at New India Printing Press, Khurja, India

Indian Standard
SPECIFICATION FOR BLEACHED LAC
(Second Revision)

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(*Continued on page* 2)

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(*Continued from page* 1)

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Indian Standard

SPECIFICATION FOR BLEACHED LAC

(*Second Revision*)

0. FOREWORD

0.1 This Indian Standard (Second Revision) was adopted by the Indian Standards Institution on 21 February 1973, after the draft finalized by the Lac and Lac Products Sectional Committee had been approved by the Chemical Division Council.

0.2 Indian Standard for bleached lac was first published in 1949. It served as a basis for initiating work at the level of the International Organization for Standardization (ISO) and culminated in the preparation of ISO Recommendation R 57 in 1957. Simultaneously IS : 17-1949 was revised in 1956 to correspond with the ISO Recommendation. In the fourth meeting of Technical Committee ISO/TC 50 Lac, it was decided to invite specific proposals for changes in the ISO Recommendation. On the basis of the proposals received an Amendment No. 1 to IS : 17-1956 was issued in 1968. Subsequently it has been seen that the requirement for non-volatile matter soluble in cold alcohol, prescribed in the standard, is applied in practice only to waste products of lac only; it has, therefore, been dropped in this second revision. Methods of sampling and test for lac and lac products have been now published separately in the form of IS : 6921-1973*, and have been deleted from this standard.

0.3 This standard includes requirements for total chlorine, acid value, mineral acid, free chlorine, arsenic and lead which are subject to agreement between the purchaser and the supplier.

0.4 This standard covers bone-dry bleached lac, intermediate surface-dry (air-dry) bleached lac, and wet bleached lac, the three differing in their moisture content. No distinction is sought to be introduced between bone-dry, kiln-dry or vac-dry bleached lac or between the various designations of the intermediate type covering dried, crushed hank, or flats in granules or flakes, or between wet bleached lac in hank, bar or any other form. Only three conditions, namely, bone-dry, surface-dry (air-dry) and wet, and two types in each condition, namely, (a) regular bleached lac (cloudy or waxy), and (b) refined bleached lac (transparent or wax-free), more briefly indicated as regular and refined are recognized.

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*Methods of sampling and test for lac and lac products.

0.5 The maximum limit for the volatile matter (moisture) in the bone-dry material has been specified as a mandatory requirement. In so far as surface-dry (air-dry) and wet bleached lacs are concerned, the actual limits have been made the subject of agreement between the purchaser and the supplier. The normal moisture content of the surface-dry (air-dry) material does not exceed 12 percent by mass, and that of wet bleached lac does not exceed 20 percent by mass.

0.6 No limit has been prescribed for the total chlorine content of bleached lac. Normally this varies between 1.5 and 4.5 percent by mass on moisture-free material, but the Sectional Committee has decided to place it on record that it is desirable to maintain the chlorine content at a low value (say at 3 percent, maximum). Likewise, no limit has been prescribed for the acid value of bleached lac. This depends on the technique of bleaching. The acid value of a good bleached lac is normally between 65 and 100 on the moisture-free material. The Sectional Committee considered it desirable to retain the acid value at as low a value as possible below 105.

0.7 The mineral acid content of bleached lac should also be as low as possible requiring for neutralization under the conditions specified in the relevant test method not more than 82 ml of 0.1 N sodium hydroxide per 100 g of the moisture-free material which is equivalent to 0.4 percent of mineral acid calculated as sulphuric acid (H_2SO_4).

0.8 Acknowledgement is due for the assistance that has been derived from the specifications and publications of the American Society for Testing and Materials; the American Bleached Shellac Manufacturers' Association; the US Shellac Importers' Association; British Standards Institution; the Agricultural Marketing Adviser to the Government of India; Messrs Angelo Brothers Ltd, Calcutta; and the Indian Lac Research Institute. Considerable assistance has been derived also from 'A Handbook of Shellac Analysis' by M. Rangaswami and H. K. Sen, published by the Indian Lac Research Institute, Ranchi. Acknowledgement is due also to the work of ISO/TC 50 for which the ISI provided the Secretariat.

0.9 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements for bleached lac.

1.2 The limits prescribed in this standard are limits for rejection.

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*Rules for rounding off numerical values (*revised*).

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given in IS : 4908-1968* and the following shall apply.

2.1.1 *Approved Sample* — The sample agreed upon between the purchaser and the supplier as the standard for colour and general appearance.

2.1.2 *Refined (Transparent or Wax-Free) Bleached Lac* — The type of bleached lac from which wax has been removed during the process of manufacture.

2.1.3 *Regular* (*Cloudy or Waxy*) *Bleached Lac* — The ordinary type of bleached lac from which wax has not been removed.

3. FORM

3.1 The form of bleached lac shall be subject to agreement between the purchaser and the supplier.

4. CONDITIONS AND TYPES

4.1 There shall be three conditions of bleached lac, namely, (a) bone-dry, (b) surface-dry (air-dry), and (c) wet.

4.2 There shall be two types under each of these conditions, namely, (a) regular (cloudy or waxy), and (b) refined (transparent or wax-free).

5. MANDATORY REQUIREMENTS

5.1 Volatile Matter (Moisture)

5.1.1 Bone-dry bleached lac shall contain not more than 6 percent by mass of volatile matter (moisture) as determined by the method prescribed in **5** of IS : 6921-1973†.

5.1.2 The percentage of volatile matter (moisture) present in surface-dry (air-dry) bleached lac shall be the subject of agreement between the purchaser and the supplier and shall be determined by the method prescribed in **5** of IS : 6921-1973† (*see* **0.5**).

5.1.3 The percentage of volatile matter (moisture) in wet bleached lac shall be the subject of agreement between the purchaser and the supplier and shall be determined by the method prescribed in **5** of IS : 6921-1973† (*see* **0.5**).

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*Glossary for terms used in lac industry.

†Methods of sampling and test for lac and lac products.

5.2 Matter Insoluble in Hot Alcohol

5.2.1 Bleached lac shall not contain matter insoluble in hot alcohol, computed on the basis of moisture-free material, in excess of the limits given below:

Regular	1.1 percent by mass
Refined	0.2 percent by mass

5.2.1.1 Matter insoluble in hot alcohol shall be determined by either of the methods prescribed in **6** of IS : 6921-1973*, as agreed to between the purchaser and the supplier.

5.3 Colour — The appearance and colour of bleached lac shall not be inferior to those of the approved sample when judged by visual examination. Alternatively the colour in solution shall be tested by either of the methods prescribed in **8** of IS : 6921-1973*, as agreed to between the purchaser and the supplier.

5.4 Wax — Bleached lac shall not contain wax, as determined by the appropriate method prescribed in **11** of IS : 6921-1973* and computed on the basis of moisture-free material, in excess of the limits given below:

Regular	5.5 percent by mass
Refined	0.2 percent by mass

5.5 Ash — Bleached lac shall not leave ash, as determined by the method prescribed in **12** of IS : 6921-1973* and computed on the basis of moisture-free material, in excess of the limits given below:

Regular	1.0 percent by mass
Refined	0.5 percent by mass

5.6 Rosin — Bleached lac shall contain no rosin as tested by the method prescribed in **9** of IS : 6921-1973*.

5.7 Copals — Bleached lac shall contain no copals as tested by the method prescribed in **10** of IS : 6921-1973*.

5.8 Matter Soluble in Water — Bleached lac shall not contain, as determined by the method prescribed in **13** of IS : 6921-1973* and computed on the basis of moisture-free material, matter soluble in water in excess of the limits given below:

Regular	1.0 percent by mass
Refined	0.3 percent by mass

6. OPTIONAL REQUIREMENTS

6.0 The optional requirements given below shall be subject to agreement between the purchaser and the supplier.

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*Methods of sampling and test for lac and lac products.

6.1 Total Chlorine — The total chlorine content of bleached lac shall be subject to agreement between the purchaser and the supplier, and when specified, it shall be determined by the method prescribed in **18** of IS : 6921-1973* (*see* **0.6**).

6.2 Acid Value — The acid value of bleached lac shall be subject to agreement between the purchaser and the supplier and when specified, it shall be determined by the method prescribed in **15** of IS : 6921-1973* (*see* **0.6**).

6.3 Mineral Acid — The mineral acid content of bleached lac shall be subject to agreement between the purchaser and the supplier and when specified, it shall be determined by the method prescribed in **17** of IS : 6921-1973* (*see* **0.7**).

6.4 Free Chlorine — The aqueous extract of the material shall not show the presence of free chlorine, if tested by the method prescribed in **19** of IS : 6921-1973*.

6.5 Arsenic — The arsenic content of bleached lac shall be subject to agreement between the purchaser and the supplier. When specified, it shall be determined by the method prescribed in **20** of IS : 6921-1973*.

6.6 Lead — The lead content of bleached lac shall be subject to agreement between the purchaser and the supplier. When specified, it shall be determined by the method prescribed in **16** of IS : 6921-1973*.

7. PACKING AND MARKING

7.1 Packing — The material shall be packed as agreed to between the purchaser and the supplier.

7.2 Marking — The material shall be marked with the following information:

a) Name, condition and type (*see* **4.1** and **4.2**) of the material;
b) Net mass of the material;
c) Name of the manufacturer, and registered trade-mark, if any; and
d) Month and year of manufacture or lot number to trace the lot of manufacture.

7.2.1 The material may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

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*Methods of sampling and test for lac and lac products.

8. SAMPLING

8.1 Samples shall be taken in the manner prescribed in **3** of IS : 6921-1973*.

8.2 Samples shall be prepared separately for each condition and type of the material.

8.3 Number of Tests

8.3.1 Tests for volatile matter, matter insoluble in hot alcohol, colour, wax and ash shall be done on two independent samples.

8.3.2 Tests for all other characteristics shall be done on a single sample only.

8.4 Criteria for Conformity — The lot shall be considered as conforming to this specification if no failure occurs in any test.

9. TESTS

9.1 Tests shall be carried out according to methods given in IS : 6921-1973*.

9.2 Except where otherwise indicated, calculations regarding bleached lac in any form or condition shall be made in terms of the moisture-free material.

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*Methods of sampling and test for lac and lac products.

INDIAN STANDARDS

ON

LAC AND LAC PRODUCTS

IS :

15-1973	Seedlac (*second revision*)
16 (Part I)-1973	Shellac: Part I Hand-made shellac (*second revision*)
16 (Part II)-1973	Shellac: Part II Machine-made shellac (*second revision*)
17-1973	Bleached lac (*second revision*)
347-1952	Varnish, shellac, for general purposes
348-1968	French polish (*first revision*)
425-1953	Shellac adhesives for steam flange joints
868-1956	Sealing wax
2978-1964	By-product of lac
3447-1965	Shellac jointing or gasket compound
4908-1968	Glossary of terms used in the lac industry
5467-1969	Shellac wax
6921-1973	Methods of sampling and test for lac and lac products

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